

810 820 830 840 850 860 870 880 890 900 910 920 930 940 950 960 970 980 990 10

AK102667.q IKLDDNHLGCGCIPASLNLKQLDLSSENNTGCPASLAQIPG-MLSIVNSNEESECPAMLGSRFGTP-SFVASNP-NLCLGPPHENECSAYRQHRRRQ-RLQLRALLIGVVAATVLLVIECCCVSILLRWPRFLIKEKRDGVKKRSPGRCGSG--SSGTSTDVSQ

30690596.p LSLDPHNBLSCVIPGSFSGCENLTKMPLSVNNTLIGCIPASLADIISNLVYENVSNNLRKGP-PASLGSRINNTSEFSGNTELCCKPENRKCESSTAEKGKK-KKKRMILMVMAISAFLLSCLCCPYVYTLLKWKRLKLQQ-STTGEKKSRSRVSSTSRSSTENSE

48470005.q LTGGCIPAVGCPNINLTLSENNTLIGCIPASLADIISNLVYENVSNNLRKGP-PASLGSRINNTSEFSGNTELCCKPENRKCESSTAEKGKK-LAHFNPNTLNGCIPASLADIISNLVYENVSNNLRKGP-PASLGSRINNTSEFSGNTELCCKPENRKCESSTAEKGKK-RNARQLAVSVIIVAAALILVGICIVCAMNIKAYKRNRRRQ-HRRKMLMIVMAISAFLLSCLCCPYVYTLLKWKRLKLQQ-STTGEKKSRSRVSSTSRSSTENSE

AK103401.q LDLHSHNKATCIPATCENLGLOMDPSKSNKNGDLPVLSKLAN-DRVNVVSNLNSGCPNIPISHFFDTIPD-FILDAGLCLSSQRDNCSGVMKPPIVFNPNASSDPLSEA-SPGAPSSQH-RRAKQLAVSVIIVAAALILVGICIVCAMNIKAYKRNRRRQ-HRRKMLMIVMAISAFLLSCLCCPYVYTLLKWKRLKLQQ-STTGEKKSRSRVSSTSRSSTENSE

AK105103.q LDLHSHNKATCIPATCENLGLOMDPSKSNKNGDLPVLSKLAN-DRVNVVSNLNSGCPNIPISHFFDTIPD-FILDAGLCLSSQRDNCSGVMKPPIVFNPNASSDPLSEA-SPGAPSSQH-HKKIIILSISTLIAIVGGALIIVGVVITIVINRVR-AASHS-APVTALS-DDYDSQ-SPNEANP

AK099708.q LDLHSHNKATCIPATCENLGLOMDPSKSNKNGDLPVLSKLAN-DRVNVVSNLNSGCPNIPISHFFDTIPD-FILDAGLCLSSQRDNCSGVMKPPIVFNPNASSDPLSEA-SPGAPSSQH-HKKIIILSISTLIAIVGGALIIVGVVITIVINRVR-AASHS-APVTALS-DDYDSQ-SPNEANP

15228900.p LDLHSHNKATCIPATCENLGLOMDPSKSNKNGDLPVLSKLAN-DRVNVVSNLNSGCPNIPISHFFDTIPD-FILDAGLCLSSQRDNCSGVMKPPIVFNPNASSDPLSEA-SPGAPSSQH-HKKIIILSISTLIAIVGGALIIVGVVITIVINRVR-AASHS-APVTALS-DDYDSQ-SPNEANP

15241089.q INLESENSSCAIPGSFSGCENLTLSENNTLIGCIPASLADIISNLVYENVSNNLRKGP-PASLGSRINNTSEFSGNTELCCKPENRKCESSTAEKGKK-LTENNTLIGCIPASLADIISNLVYENVSNNLRKGP-PASLGSRINNTSEFSGNTELCCKPENRKCESSTAEKGKK-GPALTQ-IRKSVLIS1ALTAIAAIVIAAIGVVAATVLLVIECCCVSILLRWPRFLIKEKRDGVKKRSPGRCGSG--SSGTSTDVSQ

47520009.q DLSHHNLTGCTIPATCENLGLOMDPSKSNKNGDLPVLSKLAN-DRVNVVSNLNSGCPNIPISHFFDTIPD-FILDAGLCLSSQRDNCSGVMKPPIVFNPNASSDPLSEA-SPGAPSSQH-KSSK-LAT

30689028.p DLSHHNLTGCTIPATCENLGLOMDPSKSNKNGDLPVLSKLAN-DRVNVVSNLNSGCPNIPISHFFDTIPD-FILDAGLCLSSQRDNCSGVMKPPIVFNPNASSDPLSEA-SPGAPSSQH-TPTAPSMH-KSSK-LAT

58360018.p LDLHYNRFSCGIPATCENLGLOMDPSKSNKNGDLPVLSKLAN-DRVNVVSNLNSGCPNIPISHFFDTIPD-FILDAGLCLSSQRDNCSGVMKPPIVFNPNASSDPLSEA-SPGAPSSQH-FGEVPPGAG-HKRILLSIISLIAISAAAALIVGIVIAITVILRVR-ASTVRS-AVILTFSGGDDPSR-SPTTDNS

AK073005.q LDLHGNLGLCIPPEELAKLRLLEEVDSLPEACIPKOLANLGY-LTENNTLIGCIPASLADIISNLVYENVSNNLRKGP-PASLGSRINNTSEFSGNTELCCKPENRKCESSTAEKGKK-LTENNTLIGCIPASLADIISNLVYENVSNNLRKGP-PASLGSRINNTSEFSGNTELCCKPENRKCESSTAEKGKK-GEIVPPGAG-HKRILLSIISLIAISAAAALIVGIVIAITVILRVR-ASTVRS-AVILTFSGGDDPSR-SPTTDNS

AK102330.q LDLHGNLGLCIPPEELAKLRLLEEVDSLPEACIPKOLANLGY-LTENNTLIGCIPASLADIISNLVYENVSNNLRKGP-PASLGSRINNTSEFSGNTELCCKPENRKCESSTAEKGKK-LTENNTLIGCIPASLADIISNLVYENVSNNLRKGP-PASLGSRINNTSEFSGNTELCCKPENRKCESSTAEKGKK-GEIVPPGAG-HKRILLSIISLIAISAAAALIVGIVIAITVILRVR-ASTVRS-AVILTFSGGDDPSR-SPTTDNS

15233004.p LDLHGNLGLCIPPEELAKLRLLEEVDSLPEACIPKOLANLGY-LTENNTLIGCIPASLADIISNLVYENVSNNLRKGP-PASLGSRINNTSEFSGNTELCCKPENRKCESSTAEKGKK-LTENNTLIGCIPASLADIISNLVYENVSNNLRKGP-PASLGSRINNTSEFSGNTELCCKPENRKCESSTAEKGKK-GEIVPPGAG-HKRILLSIISLIAISAAAALIVGIVIAITVILRVR-ASTVRS-AVILTFSGGDDPSR-SPTTDNS

2phk_Phk

lir3_IRK

lias_TGFbR

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AK102667.q PKLIMFNS-RITYAIDVEATRQFDEENVLSRGRHSLVFKACYND-GTVLALRIPESTSS-DGAIVVIEDEGSPRKAESLHKVKHRNLTVLRYYAGPPP-DVRLVYDYMPSN-NIATLQFAS-HQDGHI-LVNPMPHILJLAVVSRGLAFLHMQSG-VVHGQVKPQ

30690596.p PKLVMFNN-KITLAPLTCATRQFDEENVLSRGRHSLVFKACYND-GTVLALRIPESTSS-DGAIVVIEDEGSPRKAESLHKVKHRNLTVLRYYAGPPP-DVRLVYDYMPSN-NIATLQFAS-HQDGHI-MVHGIDPKPQ

48470005.q CKLVMFRKN-SSA5RYEDME-ACTKAVLDNCIVCEVCG-SVCAVRAESFES-GASIAVVKETLG-RNISQDEFBEMRMRRLCLT-HMLVFDHCFYYNSPS-DLRLVYDYMPSN-NIATLQFAS-HQDGHI-PQLVHNKIKR

AK103401.q CKLVMFK-SLPSRYEDME-ACTKAVLDNCIVCEVCG-SVCAVVKETLG-RNISQDEFBEMRMRRLCLT-HMLVFDHCFYYNSPS-TOLILSEFMVNCS-SLYDILHHSRPH-FSGSSS-RVGLSIECRFVATATPALARAYLHEDCR-PQLVHNKIKR

83533560.q CKLVMFK-GSPDFSG-AGGHAILLNKDCELGRG-GFCAVVKETLG-QEVAIKLTVSS-LVRSSEDFBEMRMRRLCLT-HMLVFDHCFYYNSPS-TOLILSEFMVNCS-SLYDILHHSRPH-FSGSSS-RVGLSIECRFVATATPALARAYLHEDCR-PQLVHNKIKR

AK105103.q CKLVMFK-GSPDFSG-AGGHAILLNKDCELGRG-GFCAVVKETLG-QEVAIKLTVSS-LVRSSEDFBEMRMRRLCLT-HMLVFDHCFYYNSPS-TOLILSEFMVNCS-SLYDILHHSRPH-FSGSSS-RVGLSIECRFVATATPALARAYLHEDCR-PQLVHNKIKR

AK099708.q CKLVMFSG-GNPEFS-ASTHALLNKDCELGRG-GFCAVVKETLG-QEVAIKLTVSS-LVRSSEDFBEMRMRRLCLT-HMLVFDHCFYYNSPS-TOLILSEFMVNCS-SLYDILHHSRPH-FSGSSS-RVGLSIECRFVATATPALARAYLHEDCR-PQLVHNKIKR

15228900.p CKLVMFSG-GNPEFS-TGTHALLNKDCELGRG-GFCAVVKETLG-QEVAIKLTVSS-LVRSSEDFBEMRMRRLCLT-HMLVFDHCFYYNSPS-TOLILSEFMVNCS-SLYDILHHSRPH-FSGSSS-RVGLSIECRFVATATPALARAYLHEDCR-PQLVHNKIKR

15241089.q CKLVMFSG-EVDPE-TTCADALLNNDSELRGRG-SVCAVVKETLG-QEVAIKLTVSS-LVRSSEDFBEMRMRRLCLT-HMLVFDHCFYYNSPS-TOLILSEFMVNCS-SLYDILHHSRPH-FSGSSS-RVGLSIECRFVATATPALARAYLHEDCR-PQLVHNKIKR

47520009.q CKMVFGP-GNSLRSDFV-GGADALLNNDSELRGRG-SVCAVVKETLG-QEVAIKLTVSS-LVRSSEDFBEMRMRRLCLT-HMLVFDHCFYYNSPS-TOLILSEFMVNCS-SLYDILHHSRPH-FSGSSS-RVGLSIECRFVATATPALARAYLHEDCR-PQLVHNKIKR

30689028.p CKLVLENRTS-RSSSSOEEF-RNPEESLNKAEPICG-VECAVVKETLG-CGRNLAVALKTVPSP-LILNLEPDREVRLILKARHMLVFDHCFYYNSPS-TOLILSEFMVNCS-SLYDILHHSRPH-FSGSSS-RVGLSIECRFVATATPALARAYLHEDCR-PQLVHNKIKR

58360018.p IKVMFENPVS-KMKLSPLMKATNEFCRKENICCG-RTCPIMRAVLFED-GSELAVKRLQDSQ-HSETOFTSEMILQEVCRHRNLVLLCFCIAKR-ERILVYKEMPK-SLYDQLNCE-EGKDKC-MWVTRERLIGIAAKGLAYLHETCTN-PVILHNRVSSK

AK073005.q AKVMFENPVS-KMKLSPLMKATNEFCRKENICCG-RTCPIMRAVLFED-GSELAVKRLQDSQ-HSETOFTSEMILQEVCRHRNLVLLCFCIAKR-ERILVYKEMPK-SLYDQLNCE-EGKDKC-MWVTRERLIGIAAKGLAYLHETCTN-PVILHNRVSSK

AK102330.q KVKLADLMAATQDFPSHIVVAGSRAHARVLRD-GFCAVVKETLG-QEVAIKLTVSS-LVRSSEDFBEMRMRRLCLT-HMLVFDHCFYYNSPS-TOLILSEFMVNCS-SLYDILHHSRPH-FSGSSS-RVGLSIECRFVATATPALARAYLHEDCR-PQLVHNKIKR

15233004.p TQVLFDFKPLV-KVKLADLMAATNNF-NENIVS-TRTSPITYKAPLFD-CSALAVKRLSTCK-IGEFREFYEMNQLELR-HENLAFLLSFCVVEE-BLILVYKYMNSNC-TUSLID-SNRGE-DWSTRFRIGIAARGLAVLHNGCR-PVILHNRVSSK

2phk_Phk -GFYENYEKEIPLRGRG-VSSVVRLCIRKPTKEYAVKID-DVTTGGGSFAAEVQELREATAEVKDLRVEKVGHEHNLKIDTYETNT-FFFDELWIDKKC-EDFDLMLKTVT-LSKEKTRFLRMALRVEALCRLK-IVHRLKRE

lir3_IRK -VFESS-VFVPDDEWEVSREKTIILRGRG-VSFCAVVKETLG-QEVAIKLTVSS-ESASDRERIFLNEASVMKGFT-CHEVWILLLCFCVWVSKG-PLVWVEMEIAHQSMLRSLRPAEENNPGC-PPPLQEMICOMAREIAKGAYNIAK-IVHRLKRE

lias_TGFbR -LPLLVQRTIARTIVLQESIGKGRCEPVWNGKRG-EEVAVKHFSSRE-ERSWFRAPIQTVMRLHENLQFIAADNKDNGTWQLMWLDYHEHC-SFDFMLNRYT-VTEGMKIQALSTAQLAHLMIEIVGTQGKPAIHPRLKRE

1210 1220 1230 1240 1250 1260 1270 1280 1290 1300 1310 1320 1330 1340 1350 1360 1370 1380 1390

1400

AK102667.q NILEDAPEBHLDFGIEEMVTAGAAA-AAAIAASTATTVGSLQVVAADAAAGATR-EGCVYFCIVLLELITGRPGCMFAG-EDEDIVKWKVPRODQRC-AVABELLEPGULED-ESSEWBPFLLGKVLGCLCTADPDLDPAPGDVVFMLEGR-VGDPDSSADPTSQSPA

30690596.p NVLDEADFHISBDFLDFDRTIRSPS-ARTIAN-TIGTLGCVSSBEALSGEITR-ESDIYFCIVLLELITGRPGCMFAG-QDEDIVKWKVPRODQRC-QVNECIPGULED-ESSEWBPFLLGKVLGCLCTADPDLDPAPGDVVFMLEGR-VGDPDSSADPTSQSPA

48470005.q NILEDNPEBHLDFGIEELKSLP-ES-ESIYFCIVLLELITGRPGCMFAG-QDEDIVKWKVPRODQRC-TVSCEDLPLMSR-PEVCA-ELVQVLLKLGCVCTSNTPSAPRNMAEVVQQLSBSVR-TNS

AK103401.q NIMLDKPEBHLDFGIEELKSLP-ES-ESIYFCIVLLELITGRPGCMFAG-QDEDIVKWKVPRODQRC-TVSCEDLPLMSR-PEVCA-ELVQVLLKLGCVCTSNTPSAPRNMAEVVQQLSBSVR-TNS

83533560.q NVLLDNSCNERVDFGLKLLP-MLDRY-VLSS-KIQSLGCMYAEFACRIVKIT-EDKDVYFCIVLLELITGRPGCMFAG-LEDDVVVLLCDVYRAAEDDC-RVEDDMDPRTSFGESFSNE-SAMLIKLGCVCTSNTPSAPRNMAEVVQQLSBSVR-SQGQTFEDDLV

AK105103.q NVLLDNSCNERVDFGLKLLP-MLDRY-VLSS-KIQSLGCMYAEFACRIVKIT-EDKDVYFCIVLLELITGRPGCMFAG-LEDDVVVLLCDVYRAAEDDC-RLEDVMDPRTSFGESFSNE-SAMLIKLGCVCTSNTPSAPRNMAEVVQQLSBSVR-SQGQTFEDDLV

AK099708.q NVLLDGSGDPLKVDGLKLLP-MLDRY-VLSS-KIQSLGCMYAEFACRIVKIT-EDKDVYFCIVLLELITGRPGCMFAG-MEDDVVLLCDVYRAAEDDC-RADECIDPRQKGPVFE-YAVRIVKLGCLCTSQVSNAPD-SVENVNLLBIR-CQDSDPETELJG

15228900.p NVLIDAAEGEKVSDFLCARLILASALDRC-VLSG-KVOSALGVTAEFACRIVKIT-IDCQDVYFCIVLLELITGRPGCMFAG-AEDDVVLLCDVYRAAEDDC-RVBBEDVPRERGNGPAAE-DAIIVVILKLGCVCTSNTPSAPRNMAEVVQQLSBSVR-CPSGS-SDELGSS

47520009.q NILLDEONCMVDEGELCARLILP-KLDKH-VMSR-RFQGGMGVVAEPLAQGSRIN-EDKDVYFCIVLLELITGRPGCMFAG-GDDDVVLLCDVYRAAEDDC-VLFLVLLKLGCVCTSNTPSAPRNMAEVVQQLSBSVR-APVAASARIEAF

30689028.p NILLDEONCMVDEGELCARLILP-KLDKH-VMSR-RFQNAGVVAEPLAQGSRIN-EDKDVYFCIVLLELITGRPGCMFAG-GEDSFVILSDEHVVRMVEBQCE-NVIECIPVMEECYSDP-EVLPVLLKLGCVCTSNTPSAPRNMAEVVQQLSBSVR-SPVPHR-IMDSF

58360018.q CILLDEVEKISDFGELCARLILP-MNPIDT-HYST-FVNGEFGDGLGVVAEYR-RTIVATP-KEDDVYFCIVLLELITGRPGCMFAG-KEDDVYFCIVLLELITGRPGCMFAG-APENFRGSLVEMWYIYLSSNA-ILODAVEKSHIGKDHDA-ELQDFMKVACSCTISPKEPTMFEVQVLLRAIG-EKYHFSADEDMLMPLSTDGETLDE

AK073005.q CILLDDYDDEKISDFGELCARLILP-MNPIDT-HYST-FVNGEFGDGLGVVAEYR-RTIVATP-KEDDVYFCIVLLELITGRPGCMFAG-KEDDVYFCIVLLELITGRPGCMFAG-APENFRGSLVEMWYIYLSSNA-ILODAVEKSHIGKDHDA-ELQDFMKVACSCTISPKEPTMFEVQVLLRAIG-EKYHFSAAADDLTMQPQNAEAELKDE

AK102330.q AVLILDEDFRIRHDSGCLARLILMVPSDN-NBSS-FMTDGLGEFGGVVAEYRSTMFAEASL-EDKDVYFCIVLLELITGRPGCMFAG-KEDDVYFCIVLLELITGRPGCMFAG-RGDDVSEQFDEFPLAYNKDESDTM-CPHSGS-SDELGSS

15233004.p VILLIDEFDRIHDGCLARLILMVPSDN-NBSS-FMTDGLGEFGGVVAEYRSTMFAEASL-KEDDVYFCIVLLELITGRPGCMFAG-GGEFGKGSILWDVROLESRC-RINEPEDENRKKGHDPE-ELISKEVIAHNCVSRKPERMSFOYQSLKHAEEQGYFSVQEDDDFLPIDIQENKEV-2phk_Phk

NILLDDMNLKSLKDFGECOLDPGEKLR-BVCG-TPSYLAPEEIECSMDNDHPGYGEVDMWSTGVIMWILLACSPPFWRH-KOMLMLRMLDMSC-NYQFGSPREWDDYSDP-VKDLVSRFLVVOPOKRWTBEEAJAHPPFOCY

lir3_IRK -CMVHAPTEVVKIDECMTRIX-ETDX-XRKGG-KGLIVRMAPESLKDGFPTT-SSDMWVFCVVLWIP-LOQPYQGHSNE-QVLFVMDGQYLDQBN-CPFRVTDLMPRCWQFNPKMPTFLEITVNLXDDLHPSFPEVSFFHSEENK

lias_TGFbR -NILVKRNGTCCLIDHLAHLRHDSDATDIDIAN-HRVGTKRYMAPEVLDL-1NMKHFESFRADIVAMGLFV-1ARRCSIGGIHEYQLPYDLPVSPSVEB-1RKV-VCERKURP1NPKQSC-EALRVMKALMRCWYANGAARIT-ALRKKHLSCS-QQEGLKM

1410

AK102667.q|....|....

30690596.p|....|....

48470005.p|....|....

AK103401.p|....|....

83533560.p|....|....

AK105103.p|....|....

AK099708.p|....|....

15228900.p|....|....

47520009.p|....|....

30689028.p|....|....

58360018.p LIVAO

AK073005.p LIVAN

AK102330.p LIVAN

15233004.p|....|....

2phk_Phk|....|....

lir3_IRK|....|....

lias_TGFbR|....|....